

**REMARKS**

1. Counsel thanks Examiner My Chau T. Tran and Supervisory Patent Examiner Andrew J. Wang for granting Counsel a telephonic interview on May 19.

At the interview, agreement was reached that the prior art rejection over Martin and Walsh should be withdrawn because there was no motivation in the secondary reference for regenerating the substrate as required by step (c).

Since that was the only rejection made, Counsel was instructed that the response would be complete if Counsel stated the above mentioned point.

2. Since the Examiner expected to make a new search before deciding whether to allow the case, Counsel pointed out some additional distinctions of the cited art.

Step (a) asserts that the catalyst is "attached" to a substrate, step (b) that the catalyst remains attached while the catalytic reaction occurs, so that the unit is converted from catalyst-substrate to catalyst-product, and step (c) that the attachment is preserved while the substrate is regenerated.

At page 9, lines 5-13, the specification states:

The term "the substrate is attached to the catalyst in a configuration that allows catalytic reaction between the catalyst and the substrate within said individual unit" denotes a direct or indirect physical connection, within each of the individual units, between substrate and catalyst. This connection should preferably maximize productive interaction of the catalyst and the substrate, within the individual unit, while minimizing the interaction of catalysts and substrates on different individual units.

It is clear that the contemplated attachment is different from the transient noncovalent binding of enzyme to substrate

(more precisely to the transition state) in the actual catalytic step, as it exists before the catalytic reaction occurs (see (a), "allows a catalytic reaction to occur") and is not disturbed by formation of product (the enzyme will normally "fall away" at this point) or the regeneration of the substrate. Neither reference disclose or suggests a persistent attachment.

Strictly speaking, the units comprise a potential catalyst attached to a substrate, the later selection determining which potential catalysts are actual catalysts. Thus, the contemplated attachment of potential catalyst to substrate is not a function of enzymatic activity. If the potential catalyst is an actual catalyst, it will convert the substrate to a product. So it is the presence of product in a unit which is indicative of the enzymatic activity of the conjoined potential catalyst.

Moreover in some embodiments, the attachment is a covalent attachment, see page 15, line 26, and new claim 56.

3. SPE Wang raised a potential indefiniteness issue. The library is said to be "of catalysts", but what is actually provided are units which comprise catalyst and substrate.

SPE Wang read the claim as saying that the catalysts comprise units, which would be circular. However, we do not so read claim 28.

Nonetheless, we thought it would be worthwhile to describe the library as one of units comprising catalysts (more precisely, ~~potential~~ catalysts), rather than of catalysts per se. Of course, the designer of the library may deliberately include one or more known catalysts in the library, per claim 62, which will facilitate comparison of the activity of any newly discovered catalysts with the known one.

With regard to claim 59, we wish to note that while the teaching is that a catalyst is not required, such a catalyst

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is not excluded. Claim 49 has been amended to better reflect the teachings at P33, L11+.

4. We have presenting several new claims, with basis as follows:

56: P15, L26  
57: P24, L8-10  
58: P23, L20-21  
59: P22, L20-21  
60-61: P22, L5-12  
62: P4, L1-8

Respectfully submitted,

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